

|    | L #    | Hits  | Search Text  | DBs                |
|----|--------|-------|--|--------------------|
| 1  | L1     | 0     | "20020193027"  | DERWENT            |
| 2  | L2     | 1     | 5773146.pn.  | DERWENT            |
| 3  | FAMILY | 1     | 1997-043014.NRAN.  | DERWENT            |
| 4  | L4     | 1     | 20020058140.pn.  | DERWENT            |
| 5  | FAMILY | 1     | 2002-471214.NRAN.  | DERWENT            |
| 6  | L6     | 1     | 2002193027.pn.   | DERWENT            |
| 7  | L7     | 0     | 20020193027.pn.  | DERWENT            |
| 8  | L8     | 2     | 2001068755.pn.   | DERWENT            |
| 9  | L9     | 0     | WO0001068755.PN.   | DERWENT            |
| 10 | L10    | 0     | WO0001068755   | DERWENT            |
| 11 | L11    | 0     | WO2001068755   | DERWENT            |
| 12 | L12    | 2     | "2001068755"   | DERWENT            |
| 13 | L13    | 11617 | powder\$2 adj coat\$4  | USPAT;<br>US-PGPUB |
| 14 | L16    | 70037 | glass adj (fiber fibre filament<br>strand yarn)  | USPAT;<br>US-PGPUB |
| 15 | L19    | 1097  | 13 and 16  | USPAT;<br>US-PGPUB |
| 16 | L22    | 16526 | (organic inorganic composite hollow<br>thermoplastic graphite talc mica<br>zinc coppeer kaolinite) adj<br>(particle particulate) | USPAT;<br>US-PGPUB |
| 17 | L25    | 111   | 19 and 22  | USPAT;<br>US-PGPUB |

DERWENT-ACC-NO: 1997-043014  
DERWENT-WEEK: 200275  
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TITLE: Aq. forming size compsn. for glass  
fibres - includes oleophobic starch,  
N-vinyl! amide! polymer, ester of wax  
component, emulsifying agent and cationic  
lubricant

INVENTOR: LAWTON, E L; WU, X ; WOO, S A

PATENT-ASSIGNEE: PPG IND INC[PITT], PPG  
IND OHIO INC[PITT]

PRIORITY-DATA: 1995US-0463909 (June 5, 1995)

PATENT-FAMILY:

| PUB-NO        | PUB-DATE          |             |
|---------------|-------------------|-------------|
| LANGUAGE      | PAGES             | MAIN-IPC    |
| CN 1191523 A  | August 26, 1998   |             |
| N/A           | 000               | C03C 025/02 |
| WO 9639364 A1 | December 12, 1996 |             |
| E             | 045               | C03C 025/02 |
| US 5773146 A  | June 30, 1998     |             |
| N/A           | 000               | B32B 009/00 |
| JP 10510800 W | October 20, 1998  |             |
| N/A           | 040               | C03C 025/02 |
| KR 99022426 A | March 25, 1999    |             |
| N/A           | 000               | C03C 025/02 |
| JP 3065668 B2 | July 17, 2000     |             |
| N/A           | 017               | C03C 025/10 |
| KR 245067 B1  | February 15, 2000 |             |

N/A

000

C03C 025/02

DESIGNATED-STATES: CA CN JP KR AT BE CH DE  
DK ES FI FR GB GR IE IT LU MC NL PT S  
E

CITED-DOCUMENTS: EP 424701; US 4296173 ; WO  
9404731 ; WO 9425522

APPLICATION-DATA:

| PUB-NO         | APPL-DESCRIPTOR  |
|----------------|------------------|
| APPL-NO        | APPL-DATE        |
| CN 1191523A    | N/A              |
| 1996CN-0195721 | May 30, 1996     |
| WO 9639364A1   | N/A              |
| 1996WO-US08071 | May 30, 1996     |
| US 5773146A    | N/A              |
| 1995US-0463909 | June 5, 1995     |
| JP 10510800W   | N/A              |
| 1996WO-US08071 | May 30, 1996     |
| JP 10510800W   | N/A              |
| 1997JP-0500862 | May 30, 1996     |
| JP 10510800W   | Based on         |
| WO 9639364     | N/A              |
| KR 99022426A   | N/A              |
| 1996WO-US08071 | May 30, 1996     |
| KR 99022426A   | N/A              |
| 1997KR-0708906 | December 5, 1997 |
| KR 99022426A   | Based on         |
| WO 9639364     | N/A              |
| JP 3065668B2   | N/A              |
| 1996WO-US08071 | May 30, 1996     |
| JP 3065668B2   | N/A              |
| 1997JP-0500862 | May 30, 1996     |
| JP 3065668B2   | Previous Publ.   |

|                |                  |
|----------------|------------------|
| JP 10510800    | N/A              |
| JP 3065668B2   | Based on         |
| WO 9639364     | N/A              |
| KR 245067B1    | N/A              |
| 1996WO-US08071 | May 30, 1996     |
| KR 245067B1    | N/A              |
| 1997KR-0708906 | December 5, 1997 |

INT-CL (IPC): B32B009/00; C03C025/02 ;  
 C03C025/10 ; D03D015/12 ;  
 D06M015/11 ; D06M015/356

ABSTRACTED-PUB-NO: US 5773146A  
 BASIC-ABSTRACT: An aq. forming size compsn.  
 for treating glass fibres comprises  
 (a) an oleophobic starch; (b) a film-forming  
 material which is a N-vinylamide  
 polymer; (c) a wax component comprising an  
 ester formed by reacting (1) a  
 monocarboxylic acid and (2) a monohydric  
 alcohol; (d) an emulsifying agent for  
 the wax component; and (e) a cationic  
 lubricant different from the wax  
 component; the compsn. is free of (1)  
 oleophilic starches, (2) polyolefin  
 emulsions, and (3) preservatives selected  
 from organometallic cpds.,  
 formaldehydes and their derivs.

Also claimed are (i) a fibre strand  
 comprising fibres deposited with the dried  
 residue of the above aq. forming size  
 compsn.; and (ii) a woven fabric having  
 at least one of the warp and the weft  
 comprising the above fibre strand.

USES - The glass fibre strands are used as cloth for printed circuit boards, knits for orthopaedics and overwrap reinforcements for optical fibre cables.

ADVANTAGES - The sized glass fibre strands have minimum fuzz and halos, low broken filaments, low strand tension, adequate wet-out in slashing and high fliability, low insertion time in weaving and can withstand a wide variety of processing operations.

ABSTRACTED-PUB-NO: WO 9639364A

EQUIVALENT-ABSTRACTS: An aq. forming size compsn. for treating glass fibres comprises (a) an oleophobic starch; (b) a film-forming material which is a N-vinylamide polymer; (c) a wax component comprising an ester formed by reacting (1) a monocarboxylic acid and (2) a monohydric alcohol; (d) an emulsifying agent for the wax component; and (e) a cationic lubricant different from the wax component; the compsn. is free of (1) oleophilic starches, (2) polyolefin emulsions, and (3) preservatives selected from organometallic cpds., formaldehydes and their derivs.

Also claimed are (i) a fibre strand comprising fibres deposited with the dried residue of the above aq. forming size compsn.; and (ii) a woven fabric having at least one of the warp and the weft comprising the above fibre strand.

USES - The glass fibre strands are used as cloth for printed circuit boards, knits for orthopaedics and overwrap reinforcements for optical fibre cables.

ADVANTAGES - The sized glass fibre strands have minimum fuzz and halos, low broken filaments, low strand tension, adequate wet-out in slashing and high fliability, low insertion time in weaving and can withstand a wide variety of processing operations.

CHOSEN-DRAWING: Dwg.0/1

TITLE-TERMS:

AQUEOUS FORMING SIZE COMPOSITION GLASS FIBRE  
OLEOPHOBIC STARCH N POLYVINYL  
POLYAMIDE POLYMER ESTER WAX COMPONENT  
EMULSION AGENT CATION LUBRICATE

DERWENT-CLASS: A11 A14 A85 A87 D22 F03 F06  
L01 L03 P73

CPI-CODES: A03-A; A04-D; A04-G01E; A07-B03;  
A08-M03; A08-S05; A12-G; D09-C04B;  
F01-D09B; F02-B02; F03-C; F03-D; F04-E04;  
F04-G01; L01-F03A; L03-H04E;

ENHANCED-POLYMER-INDEXING:

Polymer Index [1.1]

018 ; R01863\*R D01 D11 D10 D23 D22 D31  
D42 D50 D76 D86 F24 F29 F26  
F34 H0293 P0599 G3623 ; S9999 S1025  
S1014 ; M9999 M2073

Polymer Index [1.2]  
     018 ; ND01 ; Q9999 Q7216 Q7114 ; K9676\*R  
 ; K9530 K9483 ; Q9999 Q7454  
     Q7330 ; Q9999 Q8344 Q8264 ; Q9999  
 Q7987\*R  
 Polymer Index [1.3]  
     018 ; B9999 B3496 B3485 B3372 ; B9999  
 B3554\*R  
 Polymer Index [1.4]  
     018 ; D01 F83 ; A999 A033  
 Polymer Index [1.5]  
     018 ; D01 D11 D10 D50 D63 D95 F89 F41 ;  
 A999 A340\*R  
 Polymer Index [1.6]  
     018 ; D01 D61\*R F16 F35\*R ; D01 D23 D22  
 D31 D75 D50 F09 F07 D11  
     D10 ; A999 A340\*R ; K9643 K9621  
 Polymer Index [1.7]  
     018 ; A999 A340\*R ; K9325  
 Polymer Index [1.8]  
     018 ; A999 A635 A624 A566  
 Polymer Index [2.1]  
     018 ; G0635 G0022 D01 D12 D10 D23 D22  
 D31 D41 D51 D53 D58 D75 D86  
     F71 ; H0000 ; H0011\*R  
 Polymer Index [2.2]  
     018 ; G0806 G0022 D01 D51 D53 D12 D10  
 D23 D22 D31 D76 D41 D58 D87  
     F71 ; H0000 ; H0011\*R  
 Polymer Index [2.3]  
     018 ; G0657 G0022 D01 D12 D10 D23 D22  
 D31 D41 D51 D53 D58 D77 D88  
     F71 ; H0000 ; H0011\*R  
 Polymer Index [2.4]  
     018 ; G0806 G0022 D01 D51 D53 D11 D10  
 D12 D23 D22 D31 D75 D41 D58